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| 09/294,659      | 04/19/1999  | CHANG-SOO PARK       | 678-259(P873        | 6375             |

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07/21/2004

PAUL J FARRELL ESQ  
DILWORTH & BARRESE  
333 EARLE OVINGTON BOULEVARD  
UNIONDALE, NY 11553

EXAMINER

LIU, SHUWANG

ART UNIT

PAPER NUMBER

2634

DATE MAILED: 07/21/2004

18

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/294,659

**Applicant(s)**

PARK ET AL.

**Examiner**

Shuwang Liu

**Art Unit**

2634

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 29 April 2004.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-11 and 17-25 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-4, 9-11, 17, 18, 20 and 21 is/are rejected.  
7) ☒ Claim(s) 5-8, 19 and 22-25 is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments filed 04/29/04 have been fully considered but they are not persuasive. The Examiner has thoroughly reviewed Applicant's arguments but firmly believes that the cited reference reasonably and properly meets the claimed limitation as rejected.

Applicant's argument – "In *Nystrom*, block 116 does not determine an iterative decoding number and does not pass any information to the decoder 112."

Examiner's response – As disclosed in column 13, lines 4-16, Nystrom teaches "Iteration of the decoding of the first transmission set is performed a selected number of times, ..... the success of the decoding is assessed, indicated in the Figure by block 116." The iteration decoding number (selected number of times) is determined by block 116 (see column 12, lines 32-36). Furthermore, Nystrom discloses that block 116 for determining an iterative decoding number according to the received message information (for example, embedded error detecting code) received from the message information receiver (column 13, lines 4-16 and column 12, lines 37-46).

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 1, 2, 9-11, 17, and 18 are rejected under 35 U.S.C. 102(e) as being anticipated by Nystrom et al. (US 6,189,123).

As shown in figures 5 and 6, Nystrom et al. discloses a receiver for communication system, comprising:

(1) regarding claims 1 and 17:

a message information receiver (116) for receiving information about a message to be received;

a transmission channel receiver (figure 6) for receiving the message;

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a controller (116) for determining an iterative decoding number according to the received message information received from the message information receiver (column 13, lines 4-16); and

a decoder (112) for iteratively decoding the received message received from the transmission channel according to the determined iterative decoding number (column 11, lines 17-25, column 12, lines 30-36 and column 13, lines 4-16).

(2) regarding claims 2 and 18:

wherein the message information includes a class of received data (number of bit errors) (column 13, lines 4-16).

(3) regarding claims 9-11:

wherein the decoder is a soft-decision decoder (150) which is a MAP or SOVA (column 2, lines 63-67 and column 13, lines 11-12).

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 3, 4, 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nystrom et al. in view of Hagenauer et al. (US 6,377,610).

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Nystrom et al. et al. discloses all of the subject matter except for specifically teaching of the class including a bit error rate (BER) as recited in claims.

Hagenauer et al., in the same field of endeavor, teaches the relation between BER and iterative decoding number as shown in figure 11. The iterative decoding number increases (from 1 to 5) if the BER is less than a predetermined number.

It would be desirable to enable an existing signal format to be decoded more efficiently and with likelihood of bit errors than is possible with known methods so that by using the controller to determine the relation between BER and iterative decoding number. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to using the BER as the class of the receiving data as taught by Hagenauer et al. in the decoder process of Nystrom et al. in order to allow the receiver having more efficiently decoding.

### ***Allowable Subject Matter***

6. Claims 5-8, 19 and 22-25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### ***Conclusion***

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shuwang Liu whose telephone number is (703) 308-9556.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin, can be reached at (703) 305-4714.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

**or faxed to:**

**(703) 872-9306 (for Technology Center 2600 only)**

Hand-delivered responses should be brought to Crystal Park II, 2121

Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

A handwritten signature in black ink, appearing to read 'Shuwang Liu'.

Shuwang Liu  
Primary Examiner  
Art Unit 2634

July 13, 2004